



COMPREHENSIVE CLAIMS LIST (Clean)

1. A machine for concurrently measuring angles about a plurality of axes of a single plane, by means of gravity sensing tilt sensor(s), said plane representing a surface, said device further compounding and outputting the said angles to locate and measure the full slope of said plane, and further comprising a numerical, digital, or analogue display or output expressing the maximum degree of slope or compound angle in at least one coordinate system, and a unitary means of essentially rigidly mounting all components of the device, comprising, but not limited to, a case or a frame, said device also comprising

a graphic display depicting the radial line along which the compounded angle lies

or

a graphic display depicting the intersection of a vertical plane and the plane of the surface of which the slope is being measured, the vertical plane being oriented in the direction of the greatest slope of the plane of the surface of which the slope is being measured

or

a graphic display depicting the relative direction of greatest slope of the plane of the surface of which the slope is being measured

or

a graphic display depicting the line along which the maximum slope of the surface lies.

(2) A machine as in claim (1) wherein a means to extract the device output is incorporated, wherein the means may comprise, but are not limited to, a direct communications port or electro-magnetic transmitter/receiver.

(3) A machine as in claim (1) that displays the angular measurements and/or calculations in pictorial or graphic form.

(4) A machine as in claim (1) wherein multiple display modes are controllable, being user selectable to exhibit simultaneously or sequentially.

(5) A machine as in claim (1) wherein one or more pictorial or graphic displays resemble the form of a bull's-eye bubble level.

(6) A machine as in claim (1) wherein one or more pictorial or graphic displays resemble the form of a curved-tube bubble level.

(7) A machine as in claim (1) wherein the displays appear on different faces of the machine's case according to the axis about which the measurements or calculations producing them are made.

(8) A machine as in claim (1) wherein angles may be measured and/or calculated in multiple modes comprising various levels of precision and of speed of measurement and/or calculation.

(9) A machine as in claim (1) wherein the measurements and results of calculations may be recorded and later displayed or output for reference.

(10) A machine as in claim (1) wherein the computing component, preferably, a micro-processor, can automatically select a display mode in accordance with the orientation of the device as detected by the gravity sensing tilt sensor(s).

(11) A machine as in claim (1) wherein the ambient temperature is measured and displayed for calibration purposes.

(12) A machine as in claim (1) wherein a discrete signal, preferably, audio, visual, or electrical, is emitted when the unit's output reports one or more parameters as may be pre-determined by the user.

(13) A machine as in claim (1) wherein an alarm signal is emitted that varies in accordance with the machine's measurement's proximity to one or more angles as may be predetermined by the user.

(14) A machine as in claim (1) also comprising a means of recording, or of storing in a memory, a baseline or zero point for each axis from whence angles may be measured;

(15) A machine as in claim (1) wherein the functions of angular measurement may be set to reset to zero at pre-determined or user selected angles, presenting, at each applicable angle, a display such as would be exhibited by a conventional bubble inclinometer in the level position.